

**SECRETARY'S ENVIRONMENTAL ASSESSMENT REPORT
FOR A COASTAL ZONE ACT PERMIT APPLICATION**

Re: Delaware City Refining Company LLC Low Sulfur Fuels Project

February 2015

Introduction

As required by the "Regulations Governing Delaware's Coastal Zone" (Section 8.3.4) dated May 11, 1999, and amended October 1, 2001, the Secretary is required to make an environmental assessment of the impact(s) of the project on the Coastal Zone of Delaware. This is done by evaluating the project's likely impact on the statutory and regulatory criteria and making a preliminary determination of the sufficiency of the offset proposal. The following is such an environmental assessment of the proposed project described in an application for a Coastal Zone Act (CZA) Permit, received from Delaware City Refining Company LLC ("DCRC").

The fact that DNREC considers an application to be preliminarily, administratively complete does not constitute the Department's position as to whether the application should be approved or denied. That decision will not be made until after the public hearing. The purpose of the Secretary's written assessment is to assist the applicant and the public to focus on issues presented in the application. It constitutes an administrative determination that the application is sufficient to proceed to a public hearing. In addition, should the Department eventually issue the CZA Permit, it does not automatically guarantee the applicant will receive other required permits.

The Proposed Project

An Application for a Coastal Zone Act Permit for the DCRC Low Sulfur Fuels Project ("the Project") was received on January 2, 2015; supplemental information was received on February 5, 2015. The Project primarily involves the installation and operation of new hydrogen production equipment while allowing for the retirement of three package boilers, central to DCRC's compliance strategy with respect to federal requirements for Tier 3 gasoline production. Hydrogen is an integral part of the desulfurization process and a new stream of hydrogen will be provided by the new hydrogen production equipment, which consists of a one-train steam reformer, a high temperature shift reactor, pressure swing adsorption system, an electrically-driven high pressure hydrogen compressor, a cooling tower (2000 GPM), a hydrogen flare, and fugitive piping and equipment components. Support equipment will also be included, such as an aqueous ammonia tank.

Environmental Assessment

The Project will result in the following new annual air emissions:

Pollutant	Project Increase/Decrease (tons/year)
NO ₂ *	16.2
SO ₂	0.1
CO	24.1
VOC	8.6
PM/PM ₁₀ /PM _{2.5}	12.7/12.3/12.2
H ₂ SO ₄	0.01
CO ₂ e	317,992

Total NOx emissions from all sources at the Refinery are subject to a facility-wide NOx emission limit; NOx emissions from the Project will remain within the Refinery's facility-wide NOx cap. The air permit application also includes other projected emissions impacts from existing refinery process units. Because these impacts will be accommodated without a request for new or expanded emission authorizations, those impacts are excluded from this analysis. Operation of the equipment will not require the construction of any new water intake on the Delaware River, nor any increase in flow at the existing intake on the river. Demineralized boiler water will continue to be supplied by existing groundwater wells; use of makeup water will decrease due to the shutdown of the three existing package boilers. To the extent that DCRC purchases water from a third party to supply the Project, those suppliers draw their water supplies from multiple surface water sources outside the Coastal Zone; therefore, water will not be withdrawn from within the Coastal Zone. Wastewater discharges from the Refinery to the Delaware River are expected to increase by 0.3% of current discharge rates. All construction and demolition waste materials associated with the construction of the Project will be disposed of outside the Coastal Zone; other solid and hazardous wastes will be transported and disposed of at appropriate facilities/locations outside the Coastal Zone. No further impacts are anticipated.

Offset Proposal

Overall, DCRC projects that approximately 20,440 tons of sulfur per year will be removed from refinery streams. This correlates to a reduction of 40,880 tons per year of sulfur dioxide (SO₂) emissions that would result from the combustion of such fuels. Of that total reduction, approximately 6,000 tons per year of SO₂ emissions are expected to occur in Delaware, including the Coastal Zone, and the surrounding area. Retirement of the three package boilers will result

in the following air emission reductions (in tons per year): NO_x, 14.5; SO₂, 29.6; H₂SO₄, 4.8; CO, 44.7; VOC, 1.9; PM/PM₁₀/PM_{2.5}, 13.7/13.7/13.7; and NH₃, 8.9.

The CZA program has long used a 1.3:1 ratio of offsets to new emissions as a target in negotiating offset projects with applicants. In this case, DCRC, converting heavy refinery residual streams into clean-burning ultra-low sulfur fuels (diesel, home heating oil, and gasoline) for use in Delaware and the surrounding region in combination with the retirement of three package boilers now, achieves the 1.3:1 target when the reduction in tailpipe emissions from the combustion of low sulfur fuels is considered. No offsets for CO₂ or CO are required under the CZA Program.

Sufficiency Statement

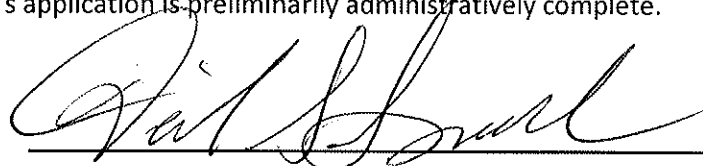
This application for a CZA Permit, including supplemental information, has been reviewed by the Department to determine its completeness. After a thorough review of the company's application and file, the Department considers this application to be administratively complete and sufficient for proceeding to public hearing.

Conclusion

Approximately 70% of the motor fuel usage in Delaware comes from fuels produced at the Refinery. Significant reductions in regional emissions as a result of using lower sulfur gasoline in automobiles, and lower sulfur home heating oil, will provide an environmental benefit to the region. The proposed facility will be constructed within the footprint of an existing grandfathered non-conforming use. The Project will create approximately 150 jobs during construction of the facility.

The company's application is preliminarily administratively complete.

Approved:



David S. Small
Secretary

Date:

2-19-15